Surveillance - Electronic Information Systems
National Electronic Disease Surveillance System (NEDSS)
http://www.cdc.gov/od/hissb/

The Centers for Disease Control and Prevention (CDC) has a vision of how advances in information technology can lead to better public health. Surveillance – the ongoing, systematic collection, analysis and interpretation of health related data – is the foundation of CDC's prevention and control programs and is essential to program planning, implementation, and evaluation. However, we know that most current surveillance systems are neither complete nor timely.

Recent examples of how surveillance using electronic databases could improve public health include the following:

- In Hawaii, direct electronic reporting from clinical laboratories more than doubled the number of cases of notifiable disease reports (shigella, salmonella, giardia, pneumococcus, and vancomycin resistant enterococcus). Information needed to investigate cases was substantially more complete and timely via electronic reporting.

- In Massachusetts, electronic search of a health maintenance organization (HMO) pharmacy database detected 18 percent more active tuberculosis (TB) cases than had been reported to the health department; these cases needed health department evaluation of contacts to stop further spread of TB.

While the above examples are specially developed solutions; use of a national standards based approach known as the National Electronic Disease Surveillance System (NEDSS) will result in solutions that can be used more generally whether in systems developed by States or by CDC. In addition, NEDSS standards will be consistent with relevant software industry standards to facilitate use of commercial software products when appropriate. NEDSS will create electronic linkages between private health care sector data and public health departments and thus allow rapid reporting of disease trends to control outbreaks by NEDSS increasing the volume, accuracy, completeness, and timeliness of the data available for outbreak detection.

To implement NEDSS, CDC will (1) develop and implement national data standards for surveillance and reporting; (2) provide technical infrastructure support for State and local communities to develop standards-based systems; (3) establish local, state, and regional demonstration projects that will create electronic linkages between health care data systems such as clinical laboratories and public health departments; and (4) provide standards and technical assistance to maintain consistent stringent security standards to protect confidentiality. These efforts will increase the speed and reliability of data collection and, consequently, enhance CDC's ability to protect the public from infectious disease outbreaks and bioterrorist attacks. For example, during the recent bioterriorism preparedness exercise, Operation Top Off, it was clear that ability to rapidly map where cases were occurring would have facilitated assessment and control of disease. NEDSS will provide access to this capacity.

NEDSS is being planned and implemented in collaboration with State and local stakeholders in the process. In fiscal year 2000, CDC funded 14 states for NEDSS development efforts, and 32 States and 3 large metropolitan areas for assessment of current State and local health department information systems and how they can implement NEDSS specifications and standards.